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## (54) FERROELECTRIC LIQUID CRYSTALLINE CHARGE TRANSFER MATERIAL

(57)Abstract:

**PROBLEM TO BE SOLVED:** To obtain a ferroelectric crystalline charge transfer material having the advantages of an amorphous material having structural flexibility and uniformity over a large surface area and the advantages of a crystalline material having molecular aligning property simultaneously in addition to high grade charge transfer property, excellent thin film forming property and durability against various kinds, by specifying carrier mobility to be a specified value or higher.

**SOLUTION:** The liquid crystal compound to be used, which has charge transfer property and shows ferroelectricity, is formed by containing the liquid crystalline compound having  $\geq 1 \times 10^{-5}$  cm<sup>2</sup>/V.sec electron mobility and  $\geq 1 \times 10^{-5}$  cm<sup>2</sup>/V.sec positive hole mobility. If the electron mobility and the positive hole mobility are  $\leq 1 \times 10^{-5}$  cm<sup>2</sup>/V.sec, ionic conduction is undesirably more dominant than electron conduction. The preferable liquid crystalline compound has (6 $\pi$  electron-based aromatic group) 1, (10 $\pi$  electron based aromatic group) m and/or (14 $\pi$  electron base aromatic group) n as cores. Where, 1+m+n=1-4, each of (l), (m), (n) is integers of 0-4. Further the liquid crystalline compound has 2-phenyl naphthalene ring or the like as the core and has a rod like molecular structure.

## LEGAL STATUS

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